DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Gregory J. Gorrie (Reg. No. 36,530) on 7/11/08.

In the claims:

Claim 1, 'a method for generating a phase compensation estimate comprising: recursively filtering an observation vector formed by weighted pilot subcarriers of a data symbol of an orthogonal frequency division multiplexed (OFDM) packet; and applying the phase compensation estimate to channel equalized subcarriers of the data symbol in the frequency domain after performance of a Fourier transform on the data symbol, wherein the pilot subcarriers are weighted based on fading gains, wherein the recursively filtering includes generating a predicted observation vector from a phase compensation estimate, the phase compensation estimate generated for a prior data symbol using a recursive algorithm, and wherein the recursively filtering includes subtracting the predicted observation vector from the observation vector' **has been changed to** ---a method for generating a phase compensation estimate comprising:

recursively filtering an observation vector formed by weighted pilot subcarriers of a data symbol of an orthogonal frequency division multiplexed (OFDM) packet; and applying the phase compensation estimate to channel equalized subcarriers of the data symbol in the frequency domain after performance of a Fourier transform on the data symbol, wherein the pilot subcarriers are weighted based on fading gains, wherein the recursively filtering includes generating a predicted observation vector from a phase compensation estimate, the phase compensation estimate generated for a prior data symbol using a recursive algorithm, and wherein the recursively filtering includes subtracting the predicted observation vector from the observation vector, *wherein recursively filtering comprises performing extended Kalman filtering on the observation vector using a channel estimate, an additive noise power estimate, a signal to noise ratio (SNR) estimate, a priori information about a dynamic model of phase, and a phase noise power value from a phase noise spectrum of transceiver oscillators*---.

Claim 6 has been cancelled.

Claim 22, 'an orthogonal frequency division multiplexed (OFDM) receiver system comprising: a dipole antenna to receive signals that include an OFDM packet; an RF receive unit to convert the OFDM packet to a stream of symbols; a data symbol-processing unit to perform a Fast Fourier Transform (FFT) on the stream of symbols to generate a decoded bit stream; a channel equalizer to perform channel equalization on subcarriers provided by the FFT; a phase tracking unit to generate phase compensation

estimates based on channel conditions; and a phase compensator to apply the phase compensation estimate to channel equalized subcarriers of a data symbol of the OFDM packet in the frequency domain after performing the FFT, wherein the phase tracking unit generates the phase compensation estimate by recursively filtering an observation vector formed by weighted pilot subcarriers, wherein the pilot subcarriers are weighted based on fading gains, and wherein the recursively filtering includes generating a predicted observation vector from a phase compensation estimate generated for a prior data symbol using a recursive algorithm, and subtracting the predicted observation vector from the observation vector**' has been changed to** ---an orthogonal frequency division multiplexed (OFDM) receiver system comprising: a dipole antenna to receive signals that include an OFDM packet; an RF receive unit to convert the OFDM packet to a stream of symbols; a data symbol-processing unit to perform a Fast Fourier Transform (FFT) on the stream of symbols to generate a decoded bit stream; a channel equalizer to perform channel equalization on subcarriers provided by the FFT; a phase tracking unit to generate phase compensation estimates based on channel conditions; and a phase compensator to apply the phase compensation estimate to channel equalized subcarriers of a data symbol of the OFDM packet in the frequency domain after performing the FFT, wherein the phase tracking unit generates the phase compensation estimate by recursively filtering an observation vector formed by weighted pilot subcarriers, wherein the pilot subcarriers are weighted based on fading gains, and wherein the recursively filtering includes generating a predicted observation vector from

a phase compensation estimate generated for a prior data symbol using a recursive algorithm, and subtracting the predicted observation vector from the observation vector, *wherein the recursive filter is an extended Kalman filter and uses a channel estimate, an additive noise power estimate, a signal to noise ratio (SNR) estimate, a priori information about a dynamic mode of phase, and a phase noise power value from a phase noise spectrum of transceiver oscillators to generate the phase compensation estimate*---.

Claim 26 has been cancelled.

Claim 28, 'a computer-readable medium that stores instructions for execution by one or more processors to perform operations that result in: generating a phase compensation estimate by recursively filtering an observation vector formed by weighted pilot subcarriers of a data symbol of an orthogonal frequency division multiplexed (OFDM) packet; and applying the phase compensation estimate to channel equalized subcarriers of the data symbol in the frequency domain after performance of a Fourier transform on the data symbol, wherein the pilot subcarriers are weighted based on fading gains, and wherein the recursively filtering includes generating a predicted observation vector from a phase compensation estimate generated for a prior data symbol using a recursive algorithm, and subtracting the predicted observation vector from the observation vector' **has been changed to** ---a computer-readable medium that stores instructions for execution by one or more processors to perform operations that

result in: generating a phase compensation estimate by recursively filtering an observation vector formed by weighted pilot subcarriers of a data symbol of an orthogonal frequency division multiplexed (OFDM) packet; and applying the phase compensation estimate to channel equalized subcarriers of the data symbol in the frequency domain after performance of a Fourier transform on the data symbol, wherein the pilot subcarriers are weighted based on fading gains, and wherein the recursively filtering includes generating a predicted observation vector from a phase compensation estimate generated for a prior data symbol using a recursive algorithm, and subtracting the predicted observation vector from the observation vector, *wherein recursively filtering comprises performing extended Kalman filtering on the observation vector using a channel estimate, an additive noise power estimate, a signal to noise ratio (SNR) estimate, a priori information about a dynamic model of phase, and a phase noise power value from a phase noise spectrum of transceiver oscillators---.*

Allowable Subject Matter

2. Claims (1-5, 7-25, 27-30) are allowed.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON FLORES whose telephone number is (571)270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. F./
Examiner, Art Unit 2611
July 11, 2008

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611